

2,2-Dimethylglutaric anhydride

Other names:	«alpha»,«alpha»-Dimethyl glutaric anhydride 2H-Pyran-2,6(3H)-dione, dihydro-3,3-dimethyl- dihydro-3,3-dimethyl-2H-pyran-2,6(3H)-dione
Inchi:	InChI=1S/C7H10O3/c1-7(2)4-3-5(8)10-6(7)9/h3-4H2,1-2H3
InchiKey:	PAVNZLVXYJDFNR-UHFFFAOYSA-N
Formula:	C7H10O3
SMILES:	CC1(C)CCC(=O)OC1=O
Mol. weight [g/mol]:	142.15
CAS:	2938-48-9

Physical Properties

Property code	Value	Unit	Source
gf	-304.28	kJ/mol	Joback Method
hf	-525.65	kJ/mol	Joback Method
hfus	6.42	kJ/mol	Joback Method
hvap	43.46	kJ/mol	Joback Method
log10ws	-1.04		Crippen Method
logp	0.876		Crippen Method
mcvol	107.640	ml/mol	McGowan Method
pc	4010.84	kPa	Joback Method
tb	541.94	K	Joback Method
tc	791.53	K	Joback Method
tf	362.94	K	Joback Method
vc	0.394	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	259.32	J/mol×K	541.94	Joback Method
cpg	274.03	J/mol×K	583.54	Joback Method
cpg	287.99	J/mol×K	625.14	Joback Method
cpg	301.28	J/mol×K	666.73	Joback Method
cpg	313.94	J/mol×K	708.33	Joback Method
cpg	326.05	J/mol×K	749.93	Joback Method

cpg

337.66

J/mol×K

791.53

Joback Method

Pressure Dependent Properties

Property code	Value	Unit	Pressure [kPa]	Source
tbrp	450.70	K	8.00	NIST Webbook

Sources

McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C2938489&Units=SI
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws
Joback Method:	https://en.wikipedia.org/wiki/Joback_method

Legend

cpg:	Ideal gas heat capacity
gf:	Standard Gibbs free energy of formation
hf:	Enthalpy of formation at standard conditions
hfus:	Enthalpy of fusion at standard conditions
hvap:	Enthalpy of vaporization at standard conditions
log10ws:	Log10 of Water solubility in mol/l
logp:	Octanol/Water partition coefficient
mcvol:	McGowan's characteristic volume
pc:	Critical Pressure
tb:	Normal Boiling Point Temperature
tbrp:	Boiling point at reduced pressure
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume

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